REMARKS

Status of Claims

Claim 37 has been amended to recite alignment features and OED receptacles in the optical block. Support for this subject matter can be found for example in claim 21. Claims 51 and 52 have been added and recite that the OEDs are mounted on lead frames. Support for this can be found, for example, on page 13, lines 9-18.

Information Disclosure Statement

Applicants are submitting herewith a supplemental disclosure statement citing US Patent No. 6,632,030. It is worthwhile to mention that portions of this patent rely on provisional application filings which are later than the effective date of the present application. (See, e.g., the '030 patent, col. 1, lines 15-25.) In particular, the provisional application directed to light bending appears to have been filed after effective filing date of the present application, and, thus, the corresponding subject matter will not be prior art to the claimed invention.

Prior Art Rejections

The Examiner rejected claims 37-39 and 42-45 under 35 U.S.C. 102(b) as being anticipated by DeAndrea et al. (U.S. Patent No. 5,708,743). Specifically, the Examiner stated that:

> DeAndrea et al. discloses, Figures 3-5, a connector interface adapted to interface with a multi-fiber assembly having an x,y array of fibers (203); a plurality of OE devices (30) for converting between optical and electrical signals; and optical block comprising an unitary structure of an optically-clear molded material comprising at least the following features . . . each optical path comprising a first section between a particular first length and a reflective surface and a second section between a corresponding second lens and said reflective surface, wherein said first sections are parallel (Column 6, lines 37-67).

The Examiner also rejected claims 21-34 under 35 U.S.C. 103(a) as being unpatentable over DeAndrea et al. Although the Examiner admits that DeAndrea does not disclose a plurality of receptacles for receiving the OEDs, he added that:

> [T]he receptacles are considered to be obvious since it is commonly used in an optical communication system to accommodate an optical device. Such an element would advantageously provide a good protection for the optical device. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the DeAndrea device with the receptacles. Doing so would obtain a good protection for the optical device.

In reply, applicants submit that independent claims 21, 37 as amended, and 38 are patentability distinct over DeAndrea.

Claim37 has been amended to recite that the optical block comprises "at least one alignment member for aligning each fiber end of a multi-fiber array with a first lens," and "a plurality of OED receptacles for receiving said OEDs, each OED receptacle including one of said second lenses." Thus, the features of the optical block recited in claim 37 as amended are now similar to those recited in claim 21. These features in combination with the other features previously set forth in the claims distinguish the claims not only over DeAndrea, but also over the Hewlett Packard MTRJ transceiver (herein "HP transceiver"), a schematic of which was submitted with the information disclosure statement filed on February 23, 2004.

Specifically, DeAndrea does not disclose receptacles fo receiving OED. Rather, in DeAndrea, the OEDs are mounted to the circuit board and register surfaces on optical block interface with the circuit board to align the block with the OED. Although the configuration in DeAndrea provides for alignment of the OED and, in this respect is similar in function to the OED receptacles of claim 37, the fact remains that actual receptacles in which the OEDs mount are not disclosed. Not only are they not disclosed, but they are suggested since an object in DeAndrea is to minimize impedance by providing an OED surface mounted to the circuit board to minimize intermediate connections. As stated in DeAndrea:

> By surface mounting the OED 30 to substrate 15, it can be appreciated that certain of the required electrical connections between the OED and the substrate can be made through contact pads or the like on the surface (17) of the substrate, as is well-known. It will be appreciated by those in the art that

> such means for providing electrical connections produce a suitable decrease in the level of parasitic capacitance and inductance as compared to prior art electrical connections, as shown in Fig 1 . . . . Furthermore, mounting of the OED 30 onto the substrate 15 enables the distance between the device and the associated circuit elements to be minimized. This further reduces the parasitic capacitance and inductance associated with the present connectors.

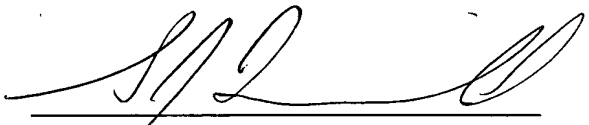
Column 5, lines 29-46. Therefore, it is clear from DeAndrea that surface mounting OEDs to the circuit board is important. Mounting the OEDs within the optical block as recited in the claimed invention would contravene this objective. Furthermore, despite the Examiner's reasoning that such receptacles would provide "good protection" for the OEDs, there is no evidence that any additional protection is necessary. Therefore, since DeAndrea lacks motivation for providing receptacles in the optical block for receiving OEDs, the rejection should be withdrawn and the claims allowed.

It is also worthwhile to mention that these claims are patentability distinct over the HP transceiver. Specifically, unlike the optical block used in the HP transceiver, the optical block of claims 21 and 37 includes alignment features for aligning the ferrule to the first lens. This consolidates this and other critical optical alignments in the optical block. The optical block in the HP transceiver, on the other hand, interfaces with a metal adapter having protrusions to align the ferrule to the optical block. Thus, the HP transceiver uses a different approach for aligning the ferrule to the optical block. Accordingly, claims 21 and 37 are patentability distinct over the HP MTRJ transceiver.

With respect to claim 38, the applicants do not understand how the above rejection applies to it. That is, the feature of the "partially-reflective surface . . . to reflect a portion of light transmitted by said light-emitting OED . . . upon a monitor for controlling the output of said light-emitting OED" is not addressed. Applicants submit that the DeAndrea does not teach or suggest such a feature, and respectfully request that the Examiner elaborate on the basis for this rejection if the rejection is maintained.

Thank you.

Respectfully submitted,



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